

David S. Warne
Assistant to the Deputy Commissioner
New York City Department of Environmental Protection
465 Columbus Avenue
Valhalla, NY 10595-1336

Re: New York City Department of Environmental Protection's *Filtration Avoidance Annual Report*, March 31, 1999

Dear Mr. Warne:

EPA has completed its review of NYCDEP's *Filtration Avoidance Annual Report* submitted on March 31, 1999, in accordance with Condition 901a of the May, 1997 Filtration Avoidance Determination (FAD). Our section-by-section comments are presented as an attachment. Please note that although we have reviewed the entire document, we have not provided comments on every section.

Many of EPA's comments and suggestions on last year's *Filtration Avoidance Annual Report* have been incorporated in this year's Report. The Report provides an excellent summary of the status of the many programs and activities that comprise the City's watershed protection efforts and the deliverable requirements of EPA's FAD. A few of these achievements are highlighted below:

- **Objective Criteria:** NYCDEP continues to meet and exceed all federal and state source water quality objective criteria;
- **Land Acquisition:** The "year 2" target solicitation goal of 107,875 acres was met, and over 13,000 acres were either acquired or under purchase contract;
- **Wastewater Treatment Plant Upgrades:** The upgrades to microfiltration or approved equivalent are on schedule. Agreements with all plant owners have been signed. Plans with detailed design/construct timelines were developed by November, 1998, in accordance with the FAD;
- **Watershed Agricultural Program:** The Watershed Agricultural Council (with the City) has now approved 198 Whole Farm Plans and has begun implementation on 105 farms, exceeding the FAD goals of 193 and 104, respectively;
- **Cat/Del Filtration Plant:** The project design is proceeding on schedule.

We note, however, that there have been a few circumstances in which FAD deadlines have not been met. The City was to have completed maintenance dredging in front of the Catskill and Delaware intakes by October 31, 1998. The project was not completed until May 12, 1999. In addition, implementation of the City's Kensico Stormwater Management Plan was to begin in September, 1998, in accordance with FAD Condition 307c-1. Construction did not begin until March, 1999. We understand that the City is expediting construction activities to bring the program back into compliance with the FAD schedule.

As you know, in our comment letter of June 25, 1998 on last year's *Filtration Avoidance Annual Report*, EPA highlighted the need for future reports to provide a more integrated analysis of the City's watershed protection programs with the results from the myriad monitoring programs. (NYCDEP's monitoring programs are described in its informative 1997 *Water Quality Surveillance Monitoring Report*.) In response, NYCDEP agreed to develop a companion document that would focus on program integration, data presentation and interpretation. We look forward to receiving this document in July, 1999. It will certainly provide valuable information as we move toward EPA's "mid-course" FAD review to be completed in April, 2000.

If you have any questions, please call me at (212) 637-3554.

Sincerely,

Jeffrey Gratz, Leader
New York City Watershed Team

Attachment

cc: J. Covey, NYSDOH
K. Markussen, NYSDEC
S. Adams, NYC Law Department
W. Harding, WPPC Ex. Director
S. Alpern, City Club of NY
E. Goldstein, NRDC

**EPA Comments on NYCDEP's
Filtration Avoidance Annual Report (March, 1999)**

Section I. Federal and State Objective Source Water Quality Criteria

Source water quality continues to meet and exceed federal and state standards. Source water and entry point monitoring for coliform concentrations, turbidity, disinfection, and chlorine residuals complied with all federal requirements for the 1998 reporting period.

Distribution System Disinfection Residuals (Pg. 6)

The second to last sentence in this section states that “samples collected in August and November had an HPC of > 5700 and 524, respectively.” It is important to clarify that the two samples which experienced high HPC readings were both surveillance samples, not compliance samples. Surveillance sites are located on mains that do not have direct service connections to water customers. These samples are collected by NYCDEP to gather additional water quality information about the distribution system for optimizing process control and for learning the source and extent of water quality changes. Nevertheless, NYCDEP should explain why the HPC readings were so high, especially for the sample collected in August.

Low Chlorine Residual Remediation (Pg.7)

The last sentence of the first paragraph discusses the permanent local chlorination booster stations installed to improve chlorine residual at three locations. There is also a chlorine booster station at Staten Island. If this station is a permanent facility, please include it in the discussion of booster stations in this section. If this station is not considered permanent, please include a brief discussion about the non-permanent booster stations in the City.

Section II. Kensico Reservoir Programs

Stormwater Management (Pg. 8)

Under the 1993 FAD (deliverable 307v-4), NYCDEP identified the need for spill containment facilities along Interstate 684 (adjacent to Rye Lake) due to the high potential for a traffic accident resulting in a hazardous spill. Subsequently, the 1995 Kensico Water Quality Control Plan and its associated EIS called for ten spill containment facilities to be built by the City within the Kensico Reservoir along this stretch of interstate highway. Under the 1997 FAD, NYCDEP submitted a schedule (307c-1), which shows the completion of these ten spill containment facilities by 9/1/2002. NYCDEP, however, makes the following statement in the 901a report for 1998: “*The spill containment component of the original stormwater plan is being incorporated into the New York State Department of Transportation’s (NYSDOT) proposed modifications to Interstate 684.*” NYCDEP seems to imply that Phase III construction of the Kensico BMPs will not incorporate spill containment facilities.

Although the draft EIS for the Route 120 project does indeed incorporate spill

containment facilities along I-684 (with the completion date for the entire project estimated to be late fall, 2002), NYCDEP is not relieved of its responsibility for this project and should not rely solely on NYSDOT for its timely completion. In order to prevent a major schedule slippage should the Route 120 project be significantly delayed or should it not go forward, NYCDEP should, as a fallback, incorporate spill containment facilities in the Phase III design, contract, permitting, procurement process. If the Route 120 project moves ahead as planned then the spill containment facilities can be dropped from the Phase III construction.

In NYCDEP's September 2, 1998 response to EPA's comments on the 1997 Annual Report (901a), it agreed that evaluating the effectiveness of the proposed Kensico BMPs is a "critical component of the Kensico Stormwater Management Program." It noted that a monitoring plan was being developed. The 1998 Annual Report states that the plan was distributed for NYCDEP internal review in early 1999. While not a specific FAD deliverable, we look forward to receiving a copy of the plan when it becomes available.

Maintenance Dredging (Pg. 11)

We note that on May 12, 1999, NYCDEP completed maintenance dredging at the Kensico Reservoir, as required by condition 307c-3 of the FAD. Over 1,500 cubic yards of material was removed from areas in front of Shaft 18 and the Catskill Upper Effluent Chamber. Although subject to some delays, we appreciate the efforts made by the City in its completion of this important Kensico project.

Identification and Repair of Sewer Leaks (Pg. 13)

In accordance with deliverables 307i and 307j, NYCDEP undertook an extensive identification and rehabilitation program for unreliable sewers within the Kensico Reservoir Watershed. NYCDEP has completed all repairs in a timely fashion. [NYCDEP entered into an intermunicipal agreement with Westchester County on July 3, 1997, to complete the remaining three sewer segments in Westchester County. Based on discussions with NYCDEP, all repairs were completed by September, 1998. The text should be corrected.] NYCDEP should continue to report annually (in 901a) on the identification and repair of any sewer system defects occurring during the preceding year.

In our June 25, 1998 comments to last year's Annual Report we suggested that NYCDEP work with Westchester and Putnam Counties to formalize an Operation and Maintenance (O&M) agreement which will provide long-term reliability of sewers within the Kensico Reservoir Watershed. The City responded on September 2, 1998 that it would consider this request. We look forward to hearing any progress on this issue.

Sewer Connections (Pg. 13)

On December 12, 1996, in accordance with Condition 307e-1, NYCDEP submitted the protocol for working with the county and towns to assure that all septic systems in municipal sewer areas are disconnected and connected to the municipal sewer system. NYCDEP's submittal identified 16 residential properties with septic systems which are required by Westchester

County's Sanitary Code to connect to the public sanitary sewer. On August 29, 1997, EPA received by copy a letter from NYCDEP to the Westchester County Department of Health explaining the protocol with a request to arrange a meeting to review and discuss implementation of the program. Apparently, a meeting never occurred. NYCDEP again contacted Westchester in August, 1998, and most recently, in April of 1999. As we discussed at our May 12, 1999 FAD meeting, we are concerned that the objective of this FAD requirement is not being met and suggest that the City be as vigilant as possible and coordinate with NYSDOH on this issue. It may take more than a periodic letter to accomplish this activity.

Failing Septics and Wastewater Discharges (Pg. 14)

In accordance with FAD condition 307f-1, protocols to detect failing septic systems were developed based on the *Methodology for Prioritizing Routine Inspections to Detect Septic System Failures* (Condition 310e-1). This methodology has been used by NYCDEP throughout the watershed. However, NYCDEP has been apparently much more successful identifying failing septic systems through the Septic Rehabilitation Program (utilized West of Hudson) than through this methodology. In response to EPA's concerns over the adequacy of this program (expressed on June 25, 1998, in our comments on NYCDEP's 1997 901a Report), NYCDEP stated they could identify failing systems visible from public rights of way. Many systems are not visible from public rights of way, and even though the City "knows the locations of all systems in the Kensico watershed through a previously conducted house to house survey," how does this information help NYCDEP to know if a system is failing?

Exfiltration Monitoring Wells (Pg. 14)

Based on the information provided, we agree with NYCDEP's conclusions.

Identification of SEQRA Projects Reviewed (Pg. 17)

We appreciate the additional information supplied in this year's Annual Report.

Westchester County Airport (Pg. 20)

The stormwater diversion plan is currently on schedule for completion by the end of 1999 in accordance with the airport's SPDES permit.

Section III. Pollution Prevention Programs

Watershed Agricultural Program (Pg. 24)

We appreciate the maps that were included in this year's Annual Report.

Wastewater Treatment Plant Upgrades (Pg. 33)

The City successfully negotiated, on schedule, the NYS Environmental Facilities Corporation (EFC)-WWTP owner contract agreements by May 1998 for all non-City owned WWTPs. All upgrade compliance schedules were approved by the FAD deadline of November, 1998. The upgrades to the City-owned WWTPs (Grahamsville, Grand Gorge, Margaretville, Pine

Hill, Tannersville, and Chichester) have been successfully implemented in accordance with the schedules contained in the FAD and State-issued Consent Orders and were fully operational at advanced treatment levels, including microfiltration, by March, 1999, as scheduled. All facilities are meeting final effluent levels in accordance with the FAD. A final EPA inspection took place in April, 1999 which verified compliance with deliverable 312b-1 for City-owned WWTP upgrades. We commend the City on completing this task.

All non-City owned WWTPs are required to be fully operational at advanced treatment levels, including microfiltration or an approved equivalent, by May 1, 2002. NYCDEP continues to provide updates on upgrades for all plants on a quarterly basis. The two State-owned facilities are in the process of establishing intermunicipal agreements with the City for their upgrades in accordance with the NYC Watershed Memorandum of Agreement. All other WWTPs have selected engineers and submitted engineering proposals to EFC and NYCDEP for approval. However, EPA is beginning to have concerns regarding delays being incurred in this step in the upgrade process. We are concerned that completion of all upgrades by May, 2002 may not be feasible if current trends continue. EPA will continue to monitor this situation closely. If upgrades do proceed in accordance with the schedule in the Watershed Rules and Regulations and the FAD (5/2002 completion), EPA expects that all WWTP owners will have obtained conceptual upgrade plan (M4 - CUP) approvals from NYCDEP by November, 1999.

With respect to SPDES modifications, NYCDEP and NYSDEC have been diligent in working together, in accordance with Conditions 312f-3 and 312f-4, to ensure that modified SPDES permits for all WWTPs are developed to comply with the new Watershed Rules and Regulations.

Implementation of Wetlands Protection Program (Pg. 34)

We agree with NYCDEP's statement that an effective wetlands protection program consists of regulatory and non-regulatory elements, and that it is necessary to maintain "strong enforcement of existing regulations..." We are therefore very concerned by NYCDEP's position regarding proposed changes to the Army Corps of Engineer's Nationwide Permit Program. As the Corps' Nationwide Permit program is modified, we would expect NYCDEP to be a strong advocate for a regulatory structure that is at least as protective as the existing one.

EPA's comments (June 25, 1998) on last year's 901a Report suggested that NYCDEP include a discussion of the success of its efforts in protecting wetlands in the watershed. The City had noted in its 1997 Report that it reviewed numerous applications for projects involving wetlands and "watercourse disturbances" and provided comments that sought to "identify and mitigate the impacts [of these projects] on the water quality function of wetlands." NYCDEP responded to our comment by stating that it would investigate methods of determining success. An update as to any progress in this area would be appreciated. Through a periodic evaluation of projects that impact wetlands and specific wetlands/stream course programs (e.g., easements, CREP, stream management), the City should be able to quantify gains or losses in wetlands over time. This may be part of the NYCDEP's ongoing Wetland Trend Analysis, although it is unclear

from the text. (The additional tables in this year's 901a Report that show projects involving wetland/watercourse disturbances were quite helpful.)

We are interested in receiving information from the Wetland Trend Analysis and Wetland Functional Assessment Pilot Study. According to the Report, the data should be available for both efforts by this time. This information should provide a template for environmentally sensitive development and for focusing watershed protection (e.g. land acquisition) and monitoring efforts in the future. As such, it should also be disseminated to County Planning Boards, Towns, and other interested watershed parties.

Please note that NYSDEC received SDWA funds to perform the revisions to the wetland maps to ensure adequate State coverage of wetlands greater than 12.4 acres.

We commend the City on its educational outreach efforts, particularly in Westchester, Ulster and Delaware Counties, and in working cooperatively with the Nature Conservancy in the Great Swamp.

Comprehensive Non-point Source Control Strategy (Pg. 41)

The text states that NYCDEP completed an annual report in September, 1998 on the implementation of its non-point source control programs (in accordance with step 10 of its *Implementation Strategy* - deliverable 308g). To the extent that this and future Annual Reports provide any information that we do not already get through the quarterly non-point source reports 308i or other submittals (e.g. 501a, 501b, 301aa, 901a), we would appreciate receiving them.

Pilot Phosphorus Offset Program Implementation (Pg. 43)

In accordance with deliverable 312-s, the FAD requires NYCDEP to update EPA semi-annually on the status of project applications to participate in the program. The City reported that 2 proposed projects (Kent Manor and EmGee Highlands) for inclusion in the program East of Hudson (EOH) have been conceptually approved by NYCDEP during 1998. A third project (Campus at Field Corners) has been submitted to NYCDEP for inclusion and is still under consideration. The flow capacity breakdown for Kent Manor, EmGee Highlands, and Campus at Field Corners is 70,000 gpd, 12,000 gpd, and 68,000 gpd respectively which equals the total flow allocation of 150,000 gpd for EOH. EPA will monitor EOH projects as we have an interest in phosphorus reductions that may affect future participation West of Hudson. The next status update is due July 31, 1999. We appreciate the concise summaries of the three projects in the 901a Report.

Partnership and Catskill Watershed Corporation Activities (Pg. 48)

NYCDEP provided an excellent summary of the status of partnership and CWC activities for 1998.

Stream Management Program (Pg. 54)

The NYCDEP strategy to leverage the 3 million dollars allocated to this program as a

local match to secure alternate funding available under State and nation programs is a sound approach. In 1998, this strategy was best exhibited by the City with projects in the West Branch Delaware River, Stony Clove, and Chestnut Creek watersheds, and by Greene County, at Red Falls. Greene County will use its NYCDEP funding to secure an additional \$350,000 towards stabilizing a stream reach at Red Falls in Prattsville. By stabilizing this stream reach, one of the greatest sources of suspended sediment loading to the Batavia Kill and ultimately the Schoharie Reservoir will be eliminated.. EPA is very interested in these projects and intends to closely monitor their progress. The design of another demonstration project along a 5000 foot reach of the Batavia Kill was also completed in 1998 by Greene County SWCD and is slated for completion in 1999. We commend the City and Greene County in these efforts. We look forward to receiving updates on these projects from NYCDEP.

Section IV. Research, Mapping, and Modeling

Comprehensive Watershed Monitoring (Pg. 62)

We look forward to receiving a report from the City in July which will provide an integrated analysis of the myriad sampling programs with the City's watershed protection programs.

Total Maximum Daily Loads (Pg. 65)

In March, 1999, NYCDEP submitted a TMDL package which, along with reservoir reports, included fact sheets and the final version of the City's *Development of a Water Quality Guidance Value for Phase II TMDLs in the New York City Reservoirs*. Please see our June 17, 1999 letter to the City on this issue. Our main concerns are the lack of justification for differentiating between "source" and upstream reservoirs with respect to an appropriate phosphorus value and inconsistencies among documents.

EPA would like to clarify for the record that the Phase I decision letter required a revision of the guidance value for all the reservoirs, not solely source water reservoirs. We would also like to clarify that the TMDL workgroup did not review or provide comment on the final Phosphorous Guidance Value Document submitted by NYCDEP.

Terrestrial and Reservoir Modeling (Pg. 66)

Reservoir modeling work continued throughout the year; however, work on calibrating and verifying the remaining six reservoir models was hampered by NYCDEP's lack of reliable monitoring data for dissolved forms of phosphorus. To remedy this deficit, NYCDEP is collecting additional data sets in 1999 to be used for verification of the models. We concur with this approach.

EPA strongly supports NYCDEP's efforts to further refine GWLF through data collection and research so to better evaluate the "water quality effects of different watershed management scenarios."

Graphical Information System (Pg. 70)

The texts should note that NYCDEP worked with NYSDEC in 1997 to develop a workplan for GIS enhancement utilizing \$100,000 of SDWA funds.

Pathogen Research (Pg. 74)

Consistent with the summary presentation of monitoring results from other sampling programs (e.g. WWTP, watershed-wide, source water), please provide a summary of storm event monitoring results.

To date a tremendous amount of data has been gathered and continues to be gathered annually. As we have stated to NYCDEP in previous correspondences, the City should devote more effort to data analysis and interpretation so that a determination can be made as to whether program objectives are being met.

EPA looks forward to receiving the results of the wildlife pathogen program being conducted through Cornell University. This study is evaluating the relative contribution that wildlife species in urban and non-urban settings have on pathogenic inputs to the water supply. The 901a Report indicates that a report from Cornell should be available in mid-1999.

Septic Siting Study (Pg. 78)

In accordance with FAD task 310f-5, the City is still on schedule to complete the report by the end of 1999. The spiking component in the Quality Assurance Plan (QAP) was revised and submitted in July, 1998. Sampling is proceeding on schedule. Dry period sampling was completed in October, 1998. Wet period sampling was completed in May, 1999. All spike and routine sampling is to be completed in July, 1999. A meeting between NYCDEP, NYSDOH and EPA took place on February 26, 1999 at which a presentation of preliminary sampling results were discussed in detail. Remaining issues were discussed, and it was decided that study will proceed as outlined in the QAP.

Galley Study (Pg. 80)

We note that SUNY -ESF's review will include an analysis of Septic Siting Study sites to determine if they can be "matched" to Galley Study sites for comparison purposes. This information should be added to the text.

Benthic Macroinvertebrate Biomonitoring (Pg. 82)

This section includes an excellent interpretive analysis of benthic macroinvertebrate monitoring results.

Section V. Cat/Del Filtration Plant

The monthly progress reports submitted by NYCDEP during 1998, as well as the monthly status meetings attended by EPA, have indicated that the NYCDEP/Joint Venture is on schedule

regarding the design of the CAT/DEL Filtration Plant. Specifically, in accordance with the FAD, the following five major milestones were accomplished in 1998 and the NYCDEP should be commended:

- (1) *Deliverable 201a-2* (submitted 7/31/98) - The City selected the optimum scheme (direct filtration at one down-state plant) and site (Eastview) which will be used in the preliminary design and the upcoming EIS work.
- (2) *Deliverable 203a-2* (submitted 7/31/98) - The City completed Phase II of the Filtration Pilot Study.
- (3) *Deliverable 203b-1* (submitted 10/31/98) - The City completed the update to the conceptual design based on the results of the Phase II Filtration Pilot Study and the early results of the Disinfection Study.
- (4) *Deliverable 203b-2* (completed 10/31/98) - The City completed the Disinfection Study to analyze the benefits of ozonation. Since the results were encouraging, NYCDEP decided to continue with an enhanced disinfection study.
- (5) *Deliverable 203b-3* (submitted 12/31/98) - The City submitted formal notice that the preliminary design of the full scale filtration plant, consistent with the updated conceptual design and site selection, has begun.

Section VI. Watershed Rules and Regulations

Wastewater Treatment Facility Compliance Inspection Program (Pg. 93)

Over the past year, EPA concerns have been adequately addressed chiefly through compliance assistance coordination among NYCDEP and NYSDEC participants at the quarterly WECC forums. In general, our goal through the FAD is to initially require verification of violations and ensure implementation of voluntary compliance measures at the earliest time possible through WECC conferences to abate violations of significant adverse impact occurring 2 or more consecutive quarters or to address violations with a formal enforcement action by the City, State, or EPA. As a result, we have noted continued improvement of the SPDES compliance status of these WWTPs. Significant Non-Compliance (SNC) of effluent discharge standards has been reduced to 8% during 1998 from 12% during 1997. As evidence of the effectiveness of combined Federal, State, and City efforts to ensure compliance, we also note that EPA has not had to issue a Notice of Violation to the State concerning unaddressed violations by watershed dischargers during 1998.

Sampling of Wastewater Treatment Plant Effluents (Pg. 95)

Through deliverable 312d-1, EPA requires NYCDEP to conduct grab sample monitoring twice per month, with at least one set of sampling in accordance with the SPDES permit

conducted annually, at all non-City owned WWTPs. Where compliance problems persist or data discrepancies are suspect, additional sampling in accordance with the SPDES permit is required to be conducted by NYCDEP. In addition, NYSDEC has committed to supplement NYCDEP's inspection/sampling efforts in the interest of addressing compliance issues in a timely fashion. The data is shared between NYCDEP and NYSDEC through the Watershed Enforcement Coordination Committee for use in compliance assistance activities or, if necessary, formal enforcement actions. As a result, all compliance issues have been resolved within two quarterly reporting periods or addressed with a formal enforcement action.

SPDES Permit Modifications Status

In accordance with Deliverables 312f-3 and 312f-4, NYCDEP has been diligent in working with NYSDEC in the issuance of draft modified SPDES permits for all WWTPs to comply with the new Watershed Rules and Regulations. During 1998, final draft modified SPDES permits were submitted to all permittees. During the public notice period, NYCDEP met with NYSDEC, NYSDOH, and EPA to clarify permit changes and address specific concerns from WWTP owners. NYCDEP is now working with NYSDEC to issue the final SPDES permits as soon as possible in accordance with State Administrative Procedures Act. NYSDEC has indicated that final modified SPDES permits for the newly upgraded NYC-owned plants were the first to be issued. All other permits will be issued as agreed upon revisions are completed. As of March 31, 1999, NYSDEC reported a total of 39 permit modifications for both the EOH & WOH have been issued. All remaining final permit modifications are expected to be issued during 1999. NYCDEP will keep EPA updated on the progress in accordance with Deliverable 312f-4.

Non-complying Regulated Activities (Pg. 96)

The text states that a number of districts and other entities have submitted inventories to NYCDEP for inclusion in the Directory. We request that the City submit the number of NCRAs which have been inventoried thus far.

Section VII. Land Acquisition and Stewardship Program

The City met the Year 2 FAD solicitation target of 51,266 acres. At the end of Year 2 (January 20, 1999), the total amount of land solicited was 107,875 acres. In addition, goals for each priority area and basin were met. A total of 5,152 acres were acquired by the City by the end of Year 2. In addition, the City has signed purchase contracts on approximately 8,000 acres. We appreciate the strides the City has made in this area. We also commend the City with making significant progress with its stewardship program during 1998, culminating with the submission in January, 1999 of its *Preliminary Recreational Use Report*. 1998 also saw progress on the implementation of the Whole Farm Easement and Floodplain Buyout Programs.

Section VIII. Disease Surveillance

This Section provides an excellent summary of the City's disease surveillance, monitoring and epidemiological programs. The tables are a very helpful addition to the Report and aid in understanding the information being generated through the City's Waterborne Disease Risk Assessment Program. We encourage their continued use.